

AN 71: CA
TI Protection of copper wire from **corrosion** during annealing
AU Gusev, S. P.; Chernov, M. S.; Belyaeva, E. M.; Popova, L. F.
CS USSR
SO Tr., Mosk. Inst. Nar. Khoz. (1968), No. 46, 82-91
CODEN: TMKPAG
DT Journal
LA Russian
CC 56 (Nonferrous Metals and Alloys)
AB Although promoted by naphthenate or other types of wire-drawing emulsion lubricants, **corrosion** and scaling are inherent during annealing at temps. >150.degree.. It is further influenced by the atm., e.g. the NH3 and SO2 contents of Moscow air, 0.037 and 0.34 g./m.3, resp. Best freedom from **corrosion** is obtained presumably by a better reversibility at a surface potential induced at a pH of 10-11. A detailed practical survey was made of inhibitors (protective coatings of the inorg. type such as insol. phosphates or chromates, hybrid types such as BzONa or a wide variety of purely org. impregnants. Best success was obtained with purely org. materials, although most were <50% effective. The tests with bulk or coiled wire samples proved most effective with **hydroquinone** or dimethylolurea, by which 0.002-0.004 and 0.05% aq. solns., resp., 80-5% protection was possible; further addn. of **urea** 0.02% lowered the efficiency to 60-80%. A surface adsorptivity [and reductant effect] was believed essential to the impregnant.
ST **corrosion** Cu annealing; annealing **corrosion** Cu; copper **corrosion** annealing
IT Urea, 1,3-bis(hydroxymethyl) -
RL: USES (Uses)
(in **corrosion** prevention of copper wire by drawing lubricants)
IT 7440-50-8, reactions
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(**corrosion** of, by wire-drawing lubricants, inhibitors for)
IT 123-31-9, uses and miscellaneous
RL: USES (Uses)
(in **corrosion** prevention of copper wire by drawing lubricants)